

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/507,129  
Source: PG/10  
Date Processed by STIC: 5/19/05

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 05/19/2005

PATENT APPLICATION: US/10/507,129

TIME: 10:06:00

Input Set : A:\sequence listing.txt

Output Set: N:\CRF4\05182005\J507129.raw

3 <110> APPLICANT: Toyota Jidosha Kabushiki Kaisha  
 5 <120> TITLE OF INVENTION: Method of Controlling Ethanol production  
 7 <130> FILE REFERENCE: PCTJP20007(TSN2002-299-WO-00)  
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/507,129  
 C--> 10 <141> CURRENT FILING DATE: 2004-09-10  
 12 <160> NUMBER OF SEQ ID NOS: 39  
 14 <170> SOFTWARE: PatentIn Ver. 2.1  
 16 <210> SEQ ID NO: 1  
 17 <211> LENGTH: 332  
 18 <212> TYPE: PRT  
 19 <213> ORGANISM: Bovine  
 21 <400> SEQUENCE: 1  
 22 Met Ala Thr Leu Lys Asp Gln Leu Ile Gln Asn Leu Leu Lys Glu Glu  
 23 1 5 10 15  
 25 His Val Pro Gln Asn Lys Ile Thr Ile Val Gly Val Gly Ala Val Gly  
 26 20 25 30  
 28 Met Ala Cys Ala Ile Ser Ile Leu Met Lys Asp Leu Ala Asp Glu Val  
 29 35 40 45  
 31 Ala Leu Val Asp Val Met Glu Asp Lys Leu Lys Gly Glu Met Met Asp  
 32 50 55 60  
 34 Leu Gln His Gly Ser Leu Phe Leu Arg Thr Pro Lys Ile Val Ser Gly  
 35 65 70 75 80  
 37 Lys Asp Tyr Asn Val Thr Ala Asn Ser Arg Leu Val Ile Ile Thr Ala  
 38 85 90 95  
 40 Gly Ala Arg Gln Gln Glu Gly Glu Ser Arg Leu Asn Leu Val Gln Arg  
 41 100 105 110  
 43 Asn Val Asn Ile Phe Lys Phe Ile Ile Pro Asn Ile Val Lys Tyr Ser  
 44 115 120 125  
 46 Pro Asn Cys Lys Leu Leu Val Val Ser Asn Pro Val Asp Ile Leu Thr  
 47 130 135 140  
 49 Tyr Val Ala Trp Lys Ile Ser Gly Phe Pro Lys Asn Arg Val Ile Gly  
 50 145 150 155 160  
 52 Ser Gly Cys Asn Leu Asp Ser Ala Arg Phe Arg Tyr Leu Met Gly Glu  
 53 165 170 175  
 55 Arg Leu Gly Val His Pro Leu Ser Cys His Gly Trp Ile Leu Gly Glu  
 56 180 185 190  
 58 His Gly Asp Ser Ser Val Pro Val Trp Ser Gly Val Asn Val Ala Gly  
 59 195 200 205  
 61 Val Ser Leu Lys Asn Leu His Pro Glu Leu Gly Thr Asp Ala Asp Lys  
 62 210 215 220  
 64 Glu Gln Trp Lys Ala Val His Lys Gln Val Val Asp Ser Ala Tyr Glu  
 65 225 230 235 240  
 67 Val Ile Lys Leu Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val

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68          245          250          255
70 Ala Asp Leu Ala Glu Ser Ile Met Lys Asn Leu Arg Arg Val His Pro
71          260          265          270
73 Ile Ser Thr Met Ile Lys Gly Leu Tyr Gly Ile Lys Glu Asp Val Phe
74          275          280          285
76 Leu Ser Val Pro Cys Ile Leu Gly Gln Asn Gly Ile Ser Asp Val Val
77          290          295          300
79 Lys Val Thr Leu Thr His Glu Glu Glu Ala Cys Leu Lys Lys Ser Ala
80 305          310          315          320
82 Asp Thr Leu Trp Gly Ile Gln Lys Glu Leu Gln Phe
83          325          330
86 <210> SEQ ID NO: 2
87 <211> LENGTH: 971
88 <212> TYPE: DNA
89 <213> ORGANISM: Saccharomyces cerevisiae
91 <400> SEQUENCE: 2
92 aagggtagcc tccccataac ataaactcaa taaaatatat agtcttcaac ttgaaaaagg 60
93 aacaagctca tgcaaagagg tggtagccgc acgccgaaat gcatgcaagt aacctattca 120
94 aagtaatatc tcatacatgt ttcattgagg taacaacatg cgactgggtg agcatatgct 180
95 ccgctgatgt gatgtgcaag ataaacaagc aagacggaaa ctaacttctt cttcatgtaa 240
96 taaacacacc ccgcgtttat ttacctatct ttaaacttca acaccttata tcataactaa 300
97 tatttcttga gataagcaca ctgcacccat accttcctta aaagcgtagc ttccagtttt 360
98 tggtaggtcc ggcttccttc ccgattccgc ccgctaaacg catatttttg ttgcctggtg 420
99 gcatttgcaa aatgcataac ctatgcattt aaaagattat gtatgctctt ctgacttttc 480
100 gtgtgatgaa gctcgtggaa aaaatgaata atttatgaat ttgagaacaa ttctgtgttg 540
101 ttacggtatt ttactatgga ataattaatc aattgaggat tttatgcaaa tatcgtttga 600
102 atatttttcc gaccctttga gtacttttct tcataattgc ataattgtt ccgctgcccg 660
103 tttttctgtt agacggtgtc ttgatctact tgctatcggt caacaccacc ttatttttcta 720
104 actatttttt ttttagctca tttgaatcag cttatggtga tggcacattt ttgcataaac 780
105 ctactgtgcc tcgttgaaca taggaaaaaa aaatatatta acaaggctct ttcactctcc 840
106 ttgcaatcag atttgggttt gttcccttta ttttcatatt tcttgtcata ttcttttctc 900
107 aattattatt ttctactcat aaccacacgc aaaataacac agtcaaatca atcaaagatc 960
108 cccaattct c 971
111 <210> SEQ ID NO: 3
112 <211> LENGTH: 999
113 <212> TYPE: DNA
114 <213> ORGANISM: Artificial Sequence
116 <220> FEATURE:
117 <223> OTHER INFORMATION: Description of Artificial Sequence:Modified DNA
118 coding lactate dehydrogenase
120 <400> SEQUENCE: 3
121 atggctactt tgaaagatca attgattcaa aatttggtga aagaagaaca tgttccacaa 60
122 aataaaatta ctattgttgg tgttggtgct gttggtatgg cttgtgctat ttctattttg 120
123 atgaaagatt tggctgatga agttgctttg gttgatgtta tgggaagataa attgaaagggt 180
124 gaaatgatgg atttgcaaca tggttctttg tttttgagaa ctccaaaaat tgtttctggt 240
125 aaagattata atgttactgc taattctaga ttggttatta ttactgctgg tgctagacaa 300
126 caagaagggtg aatctagatt gaatttggtt caaagaaatg ttaatatatt taaatttatt 360
127 attccaaata ttgttaaata ttctccaaat tgtaaattgt tggttgtttc taatccagtt 420
128 gatattttga cttatgttgc ttggaaaatt tctggttttc caaaaaatag agttattggt 480

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129 tctggttgta atttggattc tgctagattt agatatttga tgggtgaaaag attgggtggt 540
130 catccattgt cttgtcatgg ttggattttg ggtgaacatg gtgattcttc tgttccagtt 600
131 tgggtctggtg ttaatgttgc tgggtgttct ttgaaaaatt tgcattccaga attgggtact 660
132 gatgctgata aagaacaatg gaaagctggt cataaacaag ttgttgattc tgcttatgaa 720
133 gttattaaat tgaaaagtta tacttcttgg gctattgggt tgtctgttgc tgatttggct 780
134 gaatctatta tgaaaaattt gagaagagtt catccaattt ctactatgat taaagggttg 840
135 tatggtatta aagaagatgt ttttttgtct gttccatgta ttttgggtca aaatgggtatt 900
136 tctgatgttg ttaaagttac tttgactcat gaagaagaag cttgtttgaa aaaatctgct 960
137 gatactttgt ggggtattca aaaagaattg caattttaa 999
140 <210> SEQ ID NO: 4
141 <211> LENGTH: 1052
142 <212> TYPE: DNA
143 <213> ORGANISM: Artificial Sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: Description of Artificial Sequence:Modified DNA
147 coding lactate dehydrogenase
149 <400> SEQUENCE: 4
150 acagaattca caatggctac tttgaaagat caattgattc aaaatttggt gaaagaagaa 60
151 catgttccac aaaataaaaat tactattggt ggtgttggtg ctgttggtat ggcttgtgct 120
152 atttctatth tgatgaaaga tttggctgat gaagttgctt tgggtgatgt tatggaagat 180
153 aaattgaaag gtgaaatgat ggatttgcaa catggttctt tgtttttgag aactccaaaa 240
154 attgtttctg gtaaagatta taatgttact gctaattcta gattgggtat tattactgct 300
155 ggtgctagac aacaagaagg tgaatctaga ttgaatttgg ttcaaagaaa tgtaaatatt 360
156 tttaaattta ttattccaaa tattgttaaa tattctccaa attgtaaatt gttggttggt 420
157 tctaattccag ttgataattt gacttatggt gcttggaaaa tttctggtt tccaaaaaat 480
158 agagttattg gttctggttg taatttggat tctgctagat ttagatattt gatgggtgaa 540
159 agattgggtg ttcattccatt gtcttgtcat ggttggattt tgggtgaaca tggtgattct 600
160 tctgttccag tttggtctgg tgtaatggt gctggtggtt ctttgaaaaa tttgcatcca 660
161 gaattgggta ctgatgctga taaagaacaa tggaaagctg ttcataaaca agttgttgat 720
162 tctgcttatg aagttattaa attgaaaggt tatacttctt gggctattgg tttgtctggt 780
163 gctgatttgg ctgaatctat tatgaaaaat ttgagaagag ttcattccaa ttctactatg 840
164 attaaagggt tgtatggtat taaagaagat gttttttgt ctgttccatg tattttgggt 900
165 caaaatggta tttctgatgt tgtaaagtt actttgactc atgaagaaga agcttggtt 960
166 aaaaaatctg ctgatacttt gtggggtatt caaaaagaat tgcaatttta ataactcgag 1020
167 cttggttgaa cacgttgcca aggcttaagt ga 1052
170 <210> SEQ ID NO: 5
171 <211> LENGTH: 100
172 <212> TYPE: DNA
173 <213> ORGANISM: Artificial Sequence
175 <220> FEATURE:
176 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
178 <400> SEQUENCE: 5
179 acagaattca caatggctac tttgaaagat caattgattc aaaatttggt gaaagaagaa 60
180 catgttccac aaaataaaaat tactattggt ggtgttggtg 100
183 <210> SEQ ID NO: 6
184 <211> LENGTH: 20
185 <212> TYPE: DNA
186 <213> ORGANISM: Artificial Sequence
188 <220> FEATURE:

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189 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
191 <400> SEQUENCE: 6
192 acagaattca caatggctac 20
195 <210> SEQ ID NO: 7
196 <211> LENGTH: 100
197 <212> TYPE: DNA
198 <213> ORGANISM: Artificial Sequence
200 <220> FEATURE:
201 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
203 <400> SEQUENCE: 7
204 atgataacaa ccacaaccac gacaaccata ccgaacacga taaagataaa actactttct 60
205 aaaccgacta cttcaacgaa accaactaca ataccttcta 100
208 <210> SEQ ID NO: 8
209 <211> LENGTH: 20
210 <212> TYPE: DNA
211 <213> ORGANISM: Artificial Sequence
213 <220> FEATURE:
214 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
216 <400> SEQUENCE: 8
217 atgataacaa ccacaaccac 20
220 <210> SEQ ID NO: 9
221 <211> LENGTH: 100
222 <212> TYPE: DNA
223 <213> ORGANISM: Artificial Sequence
225 <220> FEATURE:
226 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
228 <400> SEQUENCE: 9
229 tggttgatgt tatggaagat aaattgaaag gtgaaatgat ggatttgcaa catggttctt 60
230 tgtttttgag aactccaaaa attgtttctg gtaaagatta 100
233 <210> SEQ ID NO: 10
234 <211> LENGTH: 20
235 <212> TYPE: DNA
236 <213> ORGANISM: Artificial Sequence
238 <220> FEATURE:
239 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
241 <400> SEQUENCE: 10
242 tggttgatgt tatggaagat 20
245 <210> SEQ ID NO: 11
246 <211> LENGTH: 100
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
253 <400> SEQUENCE: 11
254 taacaaagac catttctaatt attacaatga cgattaagat ctaaccaata ataatgacga 60
255 ccacgatctg ttgttcttcc acttagatct aacttaaacc 100
258 <210> SEQ ID NO: 12
259 <211> LENGTH: 21
260 <212> TYPE: DNA

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261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
264 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
266 <400> SEQUENCE: 12
267 taacaaagac catttcta a                                21
270 <210> SEQ ID NO: 13
271 <211> LENGTH: 100
272 <212> TYPE: DNA
273 <213> ORGANISM: Artificial Sequence
275 <220> FEATURE:
276 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
278 <400> SEQUENCE: 13
279 tgaatctaga ttgaatttgg ttcaaagaaa tggttaattt tttaaattta ttattccaaa 60
280 tattgtttaa tattctccaa attgtaaaatt gttggttggt 100
283 <210> SEQ ID NO: 14
284 <211> LENGTH: 21
285 <212> TYPE: DNA
286 <213> ORGANISM: Artificial Sequence
288 <220> FEATURE:
289 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
291 <400> SEQUENCE: 14
292 tgaatctaga ttgaatttgg t                                21
295 <210> SEQ ID NO: 15
296 <211> LENGTH: 100
297 <212> TYPE: DNA
298 <213> ORGANISM: Artificial Sequence
300 <220> FEATURE:
301 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
303 <400> SEQUENCE: 15
304 taacatttaa caaccaacaa agattaggtc aactataaaa ctgaatacaa cgaacctttt 60
305 aaagacaaaa aggtttttta tctcaataac caagaccaac 100
308 <210> SEQ ID NO: 16
309 <211> LENGTH: 21
310 <212> TYPE: DNA
311 <213> ORGANISM: Artificial Sequence
313 <220> FEATURE:
314 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
316 <400> SEQUENCE: 16
317 taacatttaa caaccaacaa a                                21
320 <210> SEQ ID NO: 17
321 <211> LENGTH: 100
322 <212> TYPE: DNA
323 <213> ORGANISM: Artificial Sequence
325 <220> FEATURE:
326 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
328 <400> SEQUENCE: 17
329 agagttattg gttctggttg taatttggat tctgctagat ttagatattt gatgggtgaa 60
330 agattgggtg ttcattccatt gtcttgcat ggttggtatt 100
333 <210> SEQ ID NO: 18

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**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/507,129

DATE: 05/19/2005

TIME: 10:06:01

Input Set : A:\sequence listing.txt

Output Set: N:\CRF4\05182005\J507129.raw

L:9 M:270 C: Current Application Number differs, Replaced Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date